UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF GEORGIA
GAINESVILLE DIVISION

SANTANA BRYSON and
JOSHUA BRYSON, as Admnistrators
of the Estate of C.Z.B. and as
surviving parents of C.Z.B, a
deceased minor,
Plaintiffs,

vs. CASE NO.: 2:22-CV-017-RWS

ROUGH COUNTRY, LLC,
Defendant.

VIDEOTAPED
DEPOSITION OF: CHRISTOPHER D. ROCHE
DATE: July 17, 2024
TIME: 9:14 a.m.
LOCATION: Ann Arbor, Michigan
TAKEN BY: Counsel for the Defendant
REPORTED BY: Mary K. Stepp, Court Reporter

APPEARANCES OF COUNSEL:

ATTORNEY FOR PLAINTIFF:

(Appearance via Zoom)
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ALSO PRESENT:

Mike Brown, Videographer

(INDEX AT REAR OF TRANSCRIPT)

THE VIDEOGRAPHER: We're on the record. The date, July the 17th, 2024. Time on the video monitor, 9:14 a.m., marks the beginning of video 1, deposition of Christopher Roche, in the matter Santana and Joshua Bryson versus Rough Country, LLC.

My name is Mike Brown, representing Veritext Legal Solutions. I'm the videographer. Our court reporter is Mary Stepp.

Counsel, please state your name for the record and whom you represent.

MS. CANNELLA: Tedra Cannella, Devin Mashman for the Plaintiffs, the Bryson family.

MR. HILL: Rick Hill for Defendant Rough Country.

THE VIDEOGRAPHER: Will the court reporter please swear in the witness.

(Witness sworn.)

CHRISTOPHER D. ROCHE,

having been duly sworn, testified as follows:

EXAMINATION

BY MR. HILL:

Q. Thank you, Mr. Roche. I'm going to share my screen here, at least attempt to.

Are you able to see the screen now? It's a -- should have on there the Investigation of the

Bryson Crash, your report dated June 14th, 2024.

A. Yes, I can.

MR. HILL: All right. And this -- I'd like to mark this as Exhibit 1 to the deposition. It's Bryson 9379 through 9398.

(Defendant's Exhibit No. 1 was marked for identification.)

BY MR. HILL:

Q. Have you brought this with you today to the deposition?

A. Yes, I have. I have it in front of me.

Q. Okay. Great.

MR. HILL: And now I would like to mark as Exhibit 2 a document that we received just minutes prior to the start of your deposition.

(Defendant's Exhibit No. 2 was marked for identification.)

BY MR. HILL:

Q. Let me see if I can share my screen again. Sorry for the technological delay. On the screen now should be a document entitled "Material Received - Amended List." Are you able to see that?

A. No, I can't see that at the moment.

Q. All right. Are you able to see it now?

A. Yes, I can.

Q. Okay. Great. This document is Bates-labeled Bryson 10995. This Amended List, when was this prepared?

A. So, I think it was prepared in the last day or so. I am noticing that some of that Amended List is an over -- is a duplication of my first supplemental report, list of availables -- materials available for review. So that for production had already been stated in my prior supplemental report.

Q. Okay. Well, let's --

MS. CANNELLA: I'll just state for the record what I stated while the witness and counsel were here earlier. We -- our -- my office produced this moments ago because we realized that the Buchner two -- last two Buchner reports and the Buchner rough rebuttal deposition is not on it. So the list is the same in all things, except for the last three items.

BY MR. HILL:

Q. Okay. So if we look at the bottom of this list, I think what Ms. Cannella is referring to is everything below where it says "Deposition of Jonathan Eisenstat with all exhibits." Is it your testimony, Mr. Roche, that the material below what I've just mentioned are the new materials that you're adding to your list of materials reviewed in

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connection with your June 14th report?
A. So those materials have been made available to me. I have seen the Buchner amended report, the rebuttal report, and his deposition, but that was subsequent to this report being authored.
Q. Okay. So the material listed in your June 14th report, that is material that you reviewed or was made available to you prior to June 14th that was in addition to the material that was listed in your initial and supplemental reports, is that a fair statement under Section B of your June 14th report?
A. Yes, I would agree with that.
Q. Okay. And prior to issuing your June 14th report, is there any material that was made available to you for review, other than what's listed in Section B of your June 14th report and what was listed in prior reports of -- you know, predating June 14th?
A. No, I don't believe so.
Q. Okay. And then now moving to this Bryson 10995, which I'd like to mark as Exhibit 2, if I didn't mention that earlier. I believe what you're saying is that the bulk of this is repetitive of material you've already listed, and that the only new material you've reviewed since June 14th are

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Bucknel -- Buchner's rebuttal. And it says "depa." I assume that means -- meant to be "depo" file materials, which is listed as Bryson 9409 through 9527; the Quest FR26 Report; the Quest FR26 Report Support; the Buchner Amended FR26 Report; the Buchner Rebuttal Report; and the Rough Draft of Bryant Buchner's Rebuttal Deposition. Is that -- have I correctly described that?
A. Yes, I think that's a fair description.
Q. All right. And when it references the Quest FR26 Report, 10519 Bryson, what -- what is that? Is that the original Quest report or is that -- what is that referring to?
A. Yes, I think that's Mr. Buchner's original report.
Q. And same when -- with regard to Quest FR26 Report's Support? Is that -- that the support that references his original support?
A. I believe so, yes.
Q. Okay. And did you review those for the first time after June 14th?
A. I guess.
Q. Okay. And was this document here that's been listed as Exhibit 2, did -- did you draft this?
A. I did not. Ms. Cannella's office drafted

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that.
Q. Okay. And was that at your direction or -- or tell me how that came to be.
A. Well, those materials were provided to me in the last few days. And obviously my current report that you have dated June 14th doesn't accurately reflect those new materials. So it was agreed that we should make sure that was clear.
Q. All right. Do you know exactly when you were provided with these additional materials after June 14th?
A. Uhm, I know the deposition transcript or the initial draft of it was provided on Friday, uhm, but the dates of the others I don't remember. It's been in the last few days.
Q. All right. And did you produce any correspondence from Ms. Cannella that relates to your receipt of these additional materials?
A. I did provide correspondence files that were relevant. I don't recall if I captured this most recent correspondence, though. Because I had that file, assuming we would depose on Friday, and so I captured the correspondence up till Friday. I don't think I've managed to capture any correspondence subsequent to that.

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MS. CANNELLA: We can get that to you, Rick.
MR. HILL: Sure.
MS. CANNELLA: No problem.
BY MR. HILL:
Q. Is it safe to say that the opinions that you've rendered in your June 14th report, that if we look at the materials listed in -- under paragraph B of that report and we combine it with all of the material you have listed in prior reports, that we have an exhaustive list of the material that you had available to you in issuing your June 14th report?
A. Yes, that's correct.
Q. Okay. If we then add the material on 10995, do we have an exhaustive list of all of the material you've reviewed or been made available to you prior to today?
A. Yes, I think that's also true.
Q. Okay. Have you ever requested an opportunity to inspect the crash test vehicles?
A. I was not aware that those vehicles were available, at the time I was authoring this -- this report.
Q. Did you ask if they were available?
A. I think Ms. Canne- -- Cannella and I

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discussed it. Uhm, but frankly their first step was to go through the materials provided and to see if it was sufficient for me to write this report, and they were, at that time.

Q. When did you learn that the materials -- I mean, that the test vehicles were available for inspection?

A. Well, frankly, that was only really confirmed when I read Mr. Buchner's deposition transcript.

Q. And when you say last Friday, that would be July 15th or -- wait, no, I'm sorry. July 12th?

A. Last -- last Friday. July 12th, yes.

Q. All right. How many crash tests in your career have you performed or participated in, in connection with your work as a consultant in litigation?

A. So you're referring specifically to my time at Robson Forensic?

Q. Yeah. As a -- your time at Robson Forensic, you work as a consultant. And I think we talked in your previous depositions about your experience in that capacity in a litigation context.

And so my question is, how many crash tests have you been involved in, in connection with

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your consulting work in litigation?

A. And by -- can you define what you mean by "crash test"?

Q. Sure. An actual, real wor- -- real world crash test, where vehicles are crashed in connection with the litigation.

A. So, I can think of -- so, sorry to be asking so many questions. But you mean where I initiated, uhm, the request for testing and conducted the testing or was involved in reviewing crash testing that had been conducted by another party?

Q. Either one. We know you've reviewed the crash test conducted by another party in this case, so we'll start with that.

Have you in any other cases reviewed crash testing conducted by another party?

A. Yes, I have.

Q. All right. Tell me about that.

A. So, that is a case that was -- it's listed on my deposition history. So that was -- I'll have to look at that list. It was the case against Ford. It is the Young versus Procomm Advanced Quality Solutions is -- is the case that's listed on my testimony history. So the one back when I was deposed in October of last year.

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Q. Right. All right. Any other cases where you analyzed any type of crash testing done by the other party?

A. I'm currently engaged in organizing testing for another case, so I would -- that case is -- testing in that case is still ongoing. So that's another example.

In terms of -- for vehicle crash tests, no, I think the -- I think that is the -- the one -- one other case I've examined for vehicle crash tests --

Q. All right. And -- and -- go ahead. Sorry. Thought you were finished.

A. Yeah, with respect to litigation, obviously my prior experience was involved in many, many crash tests.

Q. Right. Well, I'm -- I'm asking just in the context of litigation. So I don't want you to disclose any confidential information about the other tests. But you said you're -- you're currently, I guess, consulting as an expert in another case where you said you are organizing testing for that case. Did I hear that correctly?

A. Yeah. I'm investigating the possibility of conducting testing related to -- to that

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particular case.

Q. Okay. So testing hasn't actually occurred in that other case?

A. That's correct.

Q. All right. And is that the only case in the litigation context where you have either organized, directed or participated in any way in -- in an actual crash test?

A. No. There's been other cases where we were looking at the possibility or actually determining the test setup and procedures. So there have been other instances where I was involved in test setup, test planning.

Q. And did those tests actually go forward?

A. They -- they did not in that case.

Q. Okay. So has there ever been a case where you have participated in, in the ways you've described, a crash test that actually went forward in the litigation context?

A. Well, the -- the example I gave you earlier was the case where I was deposed last year, where two crash tests were performed. And I was able to review all the materials related to those crash tests.

Q. Yeah. Maybe I asked it the wrong way. I

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mean, in situations where your side of the V, the client that you were retained by, where crash testing was done on their behalf, have you ever been involved in a case where crash testing of that type actually went forward?

A. Not at this time.

Q. Okay. Now that you've had a chance to review the deposition of Mr. Buchner and his amended and rebuttal reports, are you aware whether he has any criticisms of the way the test Escape was ballasted in this case?

A. I'm not going to try and summarize Mr. Buchner's opinions. I'm here to discuss my -- my report and my opinions.

Q. Well, do you know if he has any criticisms of the weight ratio of the Escape in the crash test?

A. I don't know. There's an awful lot of dialogue about the weights. I'm aware of that. He measured the -- the weights. I know he and Mr. Grimes have some disagreement there. But, again, that's -- I highlighted my own concerns with the way the test was run and ballasted, so I would prefer to discuss that.

Q. Are you aware that the HVE software that Mr. Buchner used to run his simulations did not allow

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him to ballast the Escape, as you suggest should have occurred in the actual crash testing in this case?

MS. CANNELLA: Objection.

THE WITNESS: I don't --

MS. CANNELLA: It's not -- sorry, Chris. Objection, foundation. And I believe -- I'll just do the form objection.

BY MR. HILL:

Q. You can go ahead and answer, if you can.

A. Yeah, I -- I didn't run any HVE simulation as part of my work in this particular case, and I will defer to Mr. Buchner regarding the work he's done.

Q. All right. You're familiar with HVE simulation software, correct?

A. HVE software is not a software package that I at Robson Forensic currently utilize.

Q. Have you ever util- -- utilized it?

A. No, I haven't to date used HVE software.

Q. All right. You make reference in your report with regard to the ballasting of the Escape of industry standards for ballasting vehicles. Can you state any source that you have for an industry standard for ballasting a vehicle for a crash test in a litigation context?

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A. Well, the industry standards I am referring to relate to industry crash tests. For example, I reference FMVSS 301. So there are procedures, there are very well-documented procedures for 301, and that's what I'm referencing against.

In this particular crash test that was performed, you know, the stated objective was to match the weights of the subject crash. So I'm commenting on whether that is a fair statement, whether it -- it does represent or not, and that's really what I'm commenting on.

Q. Other than the procedures for FMVSS 301, are there any other standards that you claim apply to ballasting of a test vehicle in a -- in a forensic or litigation context?

A. Well, there are -- there are many FMVSSs. There are many tests standards. There's IIHS, there's other -- other standards around the world. Those are the standards that are used to certify or evaluate vehicle performance. As -- it's in that instance I'm referring to industry practice.

So, for the -- for example, the use of Stoddard solvent. So if you're trying to represent the fuel weight, Stoddard solvent is a good solution for that. So the weight is placed in the correct

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location. So that's really what I'm discussing in my report.

Q. What is the FMVSS 301 test? What does that relate to? What is that for?

A. 301 relates to fuel system integrity.

Q. Right. And it's a -- FMVSS is the Federal Motor Vehicle Safety Standards, so it's a compliance test. You'd agree with that, correct?

A. I would agree with that, yes.

Q. All right. Speaking of the Stoddard solvent. Do you agree that Mr. Crosby and Mr. Grimes used the published curb weight of the Escape as a starting point for their ballasting of the test Escape?

A. Uhm, I would -- I would say I've reviewed what they supplied, in terms of the capacity of the weight and the document related to the test weight, and I've compared those two. And I can see some aspects of how they -- I know what they claim the test weight was.

No photographs were provided of the vehicle in the test weight condition on a scale, for example. And I can see that there are certain items that were fitted to the test vehicle, where the weight wasn't provided.

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So really that's -- that's what I've assessed is the comparison of the documents they provided, in terms of the weight and the weight distribution.

Q. Yeah, I understand that. But my question was, did they use the published curb weight of the Escape, as their starting point in ballasting the test Escape?

A. I -- at this time, I don't recall the foundation of -- of their starting weight. I know -- I know what -- they reported the weight they're attempting to get to. I was really more interested in how they achieved that by the distribution of the ballast.

Q. Assuming that they did use the published curb weight of the Escape as a starting point, do you agree that the weight of the fuel is already represented in the published curb weight of the vehicle?

MS. CANNELLA: Objection to the form of the question. Confusing.

BY MR. HILL:

Q. Answer, if you can.

A. So, you know, Mr. Grimes' assertion was that he was trying to match the weight condition of

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the subject vehicle. So what I know from reviewing the test is that the crash test was conducted with an empty fuel system. And we know that the subject vehicle had fuel in its system. And, therefore, the weight is not in the correct location. The fuel weight is going to be applied to the vehicle in a different location than the fuel tank.

Q. Do you know how much fuel was in the subject vehicle, at the time of the incident?

A. Not off the top of my head.

Q. Do you know was -- whether Mr. Buchner accounted for any weight of the fuel in his simulation?

MS. CANNELLA: Objection to the form.

(Cross-talking.)

THE WITNESS: I don't know what to say. I will defer.

BY MR. HILL:

Q. Okay. Simple question -- and I got criticized for calling it a simple question in the last deposition, so maybe I shouldn't use that term.

But do you agree that the published curb weight of a vehicle includes the weight of a fuel -- of a full tank of gas?

A. I know that some manufacturers view it

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that way, but I can't say that every manufacturer does.

Q. Do you know whether that is true for a Ford Escape?

A. No, I didn't evaluate Ford's particular published data.

Q. So as we sit here today, you're not aware as to whether the published curb weight by Ford for the Ford Escape involved in this crash included weight for fuel?

A. No, I do not.

Q. Okay. Can you please state any industry standard or federal standard that you know that applies to ballasting a vehicle to act to the condition, when no test dummies are used in a crash?

MS. CANNELLA: Can you say that again? I'm sorry.

MR. HILL: The court reporter can read it back, yes.

(The foregoing question was read back by the court reporter.)

MS. CANNELLA: Object to the form of the question. It's confusing.

BY MR. HILL:

Q. Go ahead.

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A. So, that's a very broad question. There are a lot of test procedures and standards out there between FMVSS, the NCAP program, IIHS testing. Uhm, I am -- for most dynamic forward-vehicle crash testing, occupants are, as to the test procedure, where -- as they are typically designed to assess occupant injuries. So...

Again, I have -- you know, I haven't considered that question. There's a lot of tests out there that may well be an instance, but as I sit here today I cannot give you one.

Q. Do you have any support for the application of the procedures used in NCAP or FMVSS compliance testing to forensic testing in the litigation context?

A. I think there's a great deal of --

MS. CANNELLA: Object, because that calls for a legal -- legal conclusion, legal opinion, foundation.

BY MR. HILL:

Q. Go ahead and answer, if you can.

A. I think there's a great deal of testing conducted in industry to FMVSS and other nonregulatory test modes. And that amount of testing, there are a lot of resources. And so there

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is the money available to help develop the right types of procedures, methodologies, instrumentation, so on and so forth, that the reconstruction crash world or crash testing environment can utilize.

Q. Just so I make sure I understand this. You've listed the FMVSS testing standards, NCAP, and the IIHS testing as resources or sources for industry standards related to crash testing.

My question is, did all of the impact testing that you've cited to in your multiple reports follow each of those three testing standards?

MS. CANNELLA: Object to the form of the question. Which impacts testing are you talking about? Defendant's --

MR. HILL: All of them.

MS. CANNELLA: -- impact testing?

MR. HILL: No, he cited to multiple -- and I don't want to go back and pull out every -- each individual one. But my question is, he is -- should be familiar with the testing done in relation to, you know, the NHTSA testing he's referred to, the -- there's testing actually in this June 14th report that he references regarding NHTSA's compat- -- compatibility testing in 2007.

Does he know whether the testing of that

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sort that he's referred to, whether those tests complied with these industry standards that he's referenced?

MS. CANNELLA: Objection, a compound question and unclear.

BY MR. HILL:

Q. Go ahead.

A. So, specific to the compatibility testing, those were research tests that were conducted to try and evaluate the performance of vehicles, where there is a lack of compatibility in terms of vertical alignment. Uhm, so those were attempting to replicate, to some degree, field crashes and -- and field data that was available.

Q. Do you know whether that test complied with the FMVSS, NCAP, and/or IIHS procedures?

MS. CANNELLA: Object to the form of the question. The specific procedures you're asking about is unclear --

MR. HILL: Go ahead.

MS. CANNELLA: -- as to the different tests.

BY MR. HILL:

Q. Go ahead.

A. Yeah, the -- the procedures I'm citing,

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obviously they're not very specific to certain types of crash tests. So the compatibility tests are designed for a different purpose. There is commonality, in terms of the test setup, but they are not the same tests. So, of course, they differ.

Q. So the question is, they differ, you say, because they're not the same tests. And, therefore, they did not comply with the FMVSS, NCAP, or IIHS procedures you referenced, correct?

MS. CANNELLA: Object to the form of the question, misstates his testimony. The procedures is unclear what you're talking about. You're compounding multiple things.

MR. HILL: Go ahead. We've only got three hours because he's limited the deposition, so I'm trying to --

MS. CANNELLA: I -- I understand, but asking --

MR. HILL: Go ahead.

MS. CANNELLA: -- questions that are designed to get him to give a sound byte on something that isn't clear is not a fair question.

MR. HILL: I think it's perfectly clear.

MS. CANNELLA: Not clear --

MR. HILL: I'm using -- I'm referencing

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the very procedures that he's cited to, so he should --

MS. CANNELLA: Mr. --

MR. HILL: -- know what I mean by procedures.

MS. CANNELLA: Mr. Hill, there's pages and pages and pages of procedures in those testing reports. So if you have specific questions about procedures, then please ask him about the specific procedure you're talking about.

BY MR. HILL:

Q. Go ahead and answer the question, if you can.

A. So in my report, I obviously understand that the crash test that was conducted was attempting to try and replicate this subject crash. And, therefore, obviously it is not going to conform to any one of the standard industry tests, because this is a very specific crash. It's a real world crash. And this Exponent test was attempting to replicate it in some fashion.

My reference here relates to the differences in the specific test setup that are both inconsistent with the subject crash, nor consistent with other procedures I'm aware of that are used

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within industry for crash testing.
Q. Okay. So he was ab- -- able to answer the question.
Do you know whether the weight of the equipment that was placed into the test Escape was calculated into the ballasting of the test Escape?
A. I'm -- well, based on the documentation that was provided, it was hard to understand the exact weight of the instrumentation and the exact location of the instrumentation. Uhm, but I have -- given that there was a target test weight, I am taking it on good faith that that was included, and so the test weight reflects the weight of those individual test pieces of equipment.
Q. And if individual pieces of that test equipment was placed in the front axle position of the vehicle, would you agree that it would be improper to ballast the weight of the front passengers, specific to their actual weight, because you then would not be accounting for the weight of the equipment?
MS. CANNELLA: Object to the form of the question. Foundation, incomplete hypothetical, misrepresents the evidence that's been presented in the case.

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BY MR. HILL:
Q. Go ahead.
A. So, I didn't see any evidence or ballasting on the front axle, therefore, there's no point related to that because no -- no documentation, photographs or -- or explanation of that was provided.
Q. You're aware that there was ballasting in the front two seats, correct?
A. Yes.
Q. Okay. Do you know whether the ballasting of the test Escape increased the crush or intrusion that occurred in the test?
A. What I know is that -- and as I state in my report -- 83 percent of the ballast was located in the second row area, which is behind the center of gravity of the Ford Escape. And that significantly -- is significantly different to the weight of the occupant and cargo in the second row in the subject crash.
Q. Do you know whether this difference between the weight in the subject crash and the crash test, resulted in any increased crush or intrusion in the test?
A. I'm not saying one way or the other, if

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that's the case. I'm simply saying that the ballasted weight doesn't conform to the subject crash, which is not consistent with the stated aim of the crash test.
Q. Have you quantified the impact of this difference in ballasting between the subject crash and the test crash?
A. No, I've -- I've not attempted to quantify that.
Q. Have you done any testing to determine the impact of the ballasting issue, as you've described on the test?
A. No, I have not conducted any testing related to that.
Q. Have you performed any calculations related to that issue?
A. I've not performed calculations either --
Q. Have you --
A. -- as to that issue.
Q. Sorry, I thought you were finished. I apologize.
Have you run any simulations to determine the impact of the difference in the weight ballasting between the crash test and subject crash?
A. I've not conducted simulations as part of

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my work in this case.
Q. Do you agree that the axle weight between the test crash and the subject crash were within appropriate limits, in order to perform an appropriate crash test?
MS. CANNELLA: Object to the form of the question. It's vague. Appropriate's not defined.
BY MR. HILL:
Q. Go ahead.
A. Uhm, I haven't seen any of the defense experts state what they believe the axle weights were on the subject vehicle at the time of the crash. I can see from their own report that the ax- -- rear axle weight increased relative to the original test that the original vehicle's weight pretest as delivered.
And it increased, I think, off the top of my head, somewhere around 3 percent, which is obviously consistent with applying most of the ballast behind the center of gravity.
That's -- that's my view on the ballasting.
Q. Okay. Any other opinions regarding the ballasting of the test Escape that we haven't discussed?
A. Oh, that the ballasting was

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unrepresentative of the subject crash.
Q. Right. Instead of -- that you have on that that we haven't discussed?
A. Not at this time.
Q. All right. Great. I'll turn next to the issue of overlap or offset. Not sure which term you prefer, so if I misuse them, please let me know.
But I believe your report concludes that there was an additional offset by at least four inches in the crash test. And so I'd like to know how did you conclude that the offset in the test was at least four inches different from the subject crash?
A. Yes. I'm saying that the offset was at least an additional four inches. I know the test was set up to try and achieve an offset of around 10.8 inches. I looked at the damage pattern and compared the damage pattern of both the crash test vehicle and the subject crash vehicle, as well as studying the -- the high-speed video and still images that were available.
And the four inches is based on the fact that the sheet metal of the liftgate, outboard of the flipper glass, is induced damage in the crash test. And the four inches comes from the width of that

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sheet metal. In the -- in the subject crash we can see that there's direct contact damage in that -- in -- in that area of the liftgate.
Q. And just so I understand that, that you -- your report says, "Based upon the deformation pattern of the liftgate and the width of the structure." So I think that's what you were just talking about. The width --
A. Yes.
Q. -- that the structure you referred to is what? Just so I know --
A. It --
Q. -- for sure.
A. Yes, it -- it is -- maybe a picture would help.
Q. I'll stop sharing so you can share your screen. I didn't realize I --
A. Well, I'll --
Q. -- was still sharing.
A. I'm referring you to Image 2 of my report.
Q. All right.
A. So in Image 2, there are two dashed red overall circular shapes, and that's the area of the liftgate that I'm identifying, as comparing on the left in the crash test, induced damage on the right

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subject crash with direct contact damage. And so that measurement of four inches is the width of the sheet metal to the right of the flipper glass.
Q. The last part is what I didn't understand. And I put up the -- I think you can see my screen -- the photo -- the image you're referring to.
A. Yes.
Q. And when you say the width, the very last thing you said, are you talking about the width from the -- where I'm pointing to here, the glass to the edge of the vehicle? What exactly are you referencing, when you say the width of that structure?
A. Yes. I -- I -- in some of my work product, you'll see there's an actual measurement taken from the exemplar scan data. So I measured the width of the liftgate sheet metal towards the base of this structure, but that's above that lower edge of the lift glass -- the liftgate through the flipper glass.
Q. All right. In the subject crash, just so I understand this, the -- there was an offset in the subject crash. Do you know what that offset was?
A. I know that Mr. Grimes reported it at around 10.8 inches.

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Q. And do you agree with that determination of the offset in the subject crash? Excuse me.
A. Uhm, I haven't personally analyzed that, but I -- I -- I understand his methodology and it seems a reasonable approach for his particular crash test setup.
Q. And what was his methodology in termining -- in determining the offset of the subject crash?
A. He com- -- he compared the point cloud data of both -- of the two vehicles in a -- in a crash position, when he overlaid the two point clouds of the subject Escape and subject F250.
Q. And so you haven't done -- I'm sorry. I thought you were finished. I apologize.
A. Well, he just compared the lines of both cloud data, but that was just to conclude his methodology.
Q. And that's your understanding of his methodology?
A. That's right.
Q. Okay. And you haven't undertaken to make that type of determination or, you know, used any type of scientific methodology to determine the offset in the subject crash?

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A. So, I'm not -- my responsibility in this case is not reconstruction. So Mr. Buchner's responsibility is reconstruction. So I'm not trying to duplicate what Mr. Buchner is doing.

What -- what I'm trying to highlight here is that clearly, simply from a damage pattern analysis of the two vehicles, the crash test and the subject vehicle, we can see that the damage pattern is inconsistent between the two.

Now, obviously there is a vertical height difference, which I have accounted for. And I'm -- I'm going off what the stated aim of the test was, which was to match the offset, which Mr. Grimes asserts is 10.8 inches, about 10.8 inches. And whether or not he achieved that, that's what I'm opining on here.

Q. All right. Now, I'm a little confused. You've referenced both Mr. Grimes and Mr. Buchner with regard to their analysis of the offset and the subject crash. Which of the two experts' work are you relying upon with regard to that issue?

A. Uhm, okay. I understand that may be a little confusing response. So in this case, I have a specific focus as directed by Ms. Cannella that is not crash reconstruction. So I have not attempted,

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during the course of my work on this case, to do reconstruction. I'm aware that there is a crash reconstructionist for the plaintiff's side.

But when I compared these images and the stated objective of the crash test and what Mr. Grimes was attempting to do, it was apparent to me that he didn't achieve the offset he set out to achieve. I'm not trying to reconstruct the subject crash. I'm not trying to reconstruct his crash test. I'm simply observing that the offset didn't achieve the pretest objective.

Q. Okay. And other than looking at the photographs in Image 2 or any other photographs you might have referenced, is there any other evidence or information that you relied upon in concluding that the offset was at least four inches different from the subject crash?

A. Well, it's a combination of looking at the photographs and some of the films available. So there is -- there is high-speed film available of the crash test, and you can look at the alignment of the hood to the Escape during that high-speed film. So that's what I've used for the basis of that opinion.

Q. So the -- I'm assuming you're referring to the overhead view, high-speed film of the crash test?

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A. Correct.

Q. And how did you use that to form your opinion that the offset was at least four inches different from the subject crash?

A. No, that wasn't what I used to determine the four inches. I've just described the method I used to determine the four inches. But you can kind of get a sense from reviewing the film of the loading of that part of the -- of the liftgate.

Q. In the subject crash, did any portion of the F-250 impact the right side of the subject Escape to the right of the window of the hatch? I'm trying to understand that opinion. So, I'm referencing your Image 2 and the area that you've circled with the dotted circle.

Are you saying that that portion of the subject Escape was impacted directly by the subject F-250?

A. I'm saying that that area in the circle is consistent with direct contact damage.

Q. Okay. So you believe that the area in the circle on the subject Escape and Image 2 is evidence of direct impact from the F-250? Just trying to make sure that's clear.

A. Yes.

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Q. Okay. And the circled area for the test crash Escape, your opinion is that in that area there was no direct impact by the test F-250?

A. That's right. I'm saying that's induced damage.

Q. Okay. And other than looking at these photographs, can you tell -- tell me, you know, the basis for that opinion?

A. Just described the basis for that opinion. I just walked you through that process.

Q. Right. I'm just saying, so it's the visual representation of the damage to the vehicles that you're relying upon for that conclusion?

A. It's the damage pattern analysis, combined with measuring an exemplar Ford Escape, yes.

Q. And just to be clear, what did you measure on the exemplar Ford Escape?

A. I measured --

MS. CANNELLA: Objection, asked and answered.

BY MR. HILL:

Q. Go ahead.

A. I measured the width of the sheet metal to the right of the flipper glass.

Q. And that's from the edge of the flipper

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glass to the edge of the vehicle; is that correct?
A. It's to the rear-facing surface of the liftgate.
Q. Okay. Do you know if the difference in the offset or overlap, whichever term you prefer, that occurred in the crash test had any impact on the level of crush or intrusion seen in the crash test?
A. So in my experience, uhm, you have what we've discussed at great length, physical alignment. You also have lateral alignment between structures. So in the instance where there is less lateral alignment, so less overlap or more offset, the forces are concentrated on a smaller part of the -- the struct- -- the structure.
Q. With the forces being applied to a smaller part of the structure, have you determined how much those greater forces increased intrusion or crush in the crash test?
A. No. My opinion is that, again, if the objective of the crash test was to replicate the subject crash, this is another instance where it hasn't been replicated.
Q. Have you done any work to determine whether this example of where the test crash did not replicate the subject crash had any impact to -- on

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the crash test?
MS. CANNELLA: Object to the form of the question. Vague.
BY MR. HILL:
Q. Go ahead.
A. In terms of -- do you mean in terms of quantifying intrusion levels?
Q. That's right. Correct.
A. No, I haven't tried to quantify difference in intrusion levels, other than looking at the survival space in the second --
THE REPORTER: The what space? I'm sorry.
THE WITNESS: Survival space.
THE REPORTER: Thank you.
MS. CANNELLA: In the second row.
THE WITNESS: Right.
MS. CANNELLA: I just want to finish it for her.
THE WITNESS: In the second row.
MS. CANNELLA: Yes.
BY MR. HILL:
Q. Analyzing the survival space in the second row between the subject crash and the crash test gives you an analysis comparing the crash test to the subject test.

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But my question is, have you done anything to quantify how the crash test would have been different, if the offset or overlap matched the subject crash?
A. The purpose of my analysis was to really understand how representative the crash test is to the subject crash. That's -- that's, uh -- that was what I -- my objective and that's why I've written this report and formed the opinions I've had -- I -- I have.
Q. All right. Well, have you done any testing to determine the impact of the difference in offset on the results of the crash test?
MS. CANNELLA: Asked and answered.
BY MR. HILL:
Q. Go ahead.
A. No, I haven't. I've simply identified the discrepancy between the crash test that was performed and the subject crash.
MR. HILL: We've been going about an hour, let's take a quick break. I need --
MS. CANNELLA: Okay.
MR. HILL: -- to use the restroom. I'll be back fast.
THE VIDEOGRAPHER: Off the record 10:06.

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(Recess was taken from 10:06 a.m. to 10:13 a.m.)
THE VIDEOGRAPHER: Back on the record. The time 10:13.
BY MR. HILL:
Q. Let's say that the crash test -- well, let me back up. Scratch that.
When you testified that there was at least a four-inch difference in the offset, are you referencing the 10.8 offset calculated by Mr. Grimes or the 12-inch offset originally tested to -- testified to by --
MS. CANNELLA: Hey, guys --
MR. HILL: -- by Mr. Buchner.
MS. CANNELLA: -- sorry. I wasn't in the room. Can you -- can y'all check for me before you get started next time?
MR. HILL: Oh, yeah. I thought you said you were ready. I -- I apologize.
MS. CANNELLA: No.
MR. HILL: Somebody said they were --
MS. CANNELLA: I'm here.
MR. HILL: -- ready. I thought it was you.
MS. CANNELLA: No.

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MR. HILL: Yeah, I was trying to sneak in a question there before you got back. Sorry.
MS. CANNELLA: That's okay.
MR. HILL: Are you -- are you ready now? Sorry about that.
MS. CANNELLA: I'm ready, don't worry. Yeah, I'll turn on my camera so you can see me.
MR. HILL: All right. Sure. Sorry. I'll reask the question.
MS. CANNELLA: Thanks.
BY MR. HILL:
Q. Uhm, the four-inch offset that you testified about, Mr. Roche, is that relative to the 10.8 offset determined by -- by Mr. Grimes or the 12-inch offset that Mr. Buchner testified to, originally --
MS. CANNELLA: Object to --
MR. HILL: -- just so we're --
MS. CANNELLA: -- the form of the question.
MR. HILL: -- just so we're clear.
MS. CANNELLA: Object to the form of the question. Misstates Mr. Buchner's opinion.
BY MR. HILL:
Q. Go ahead.

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A. Yeah, my -- my reference here is related to Mr. Grimes' 10.8 inches.
Q. Okay. And so your testimony, just to be clear, is that the offset is at least four inches from 10.8?
A. Yeah. My testimony is that in the crash test we can see induced damage in the liftgate in the area that we discussed. There's -- there's contact damage in the subject crash and that width is four inches.
Q. Okay. Great. Have you done any work at all to determine how the crash test would have been different, if the offset in the crash test would have been exactly 10.8?
A. So my report really, as I mentioned earlier, is trying to identify how representative the crash test is to the subject crash and -- and what, if any, conclusions can be drawn from it. And what I highlight throughout the report -- and I know you're working through it, we're not there yet -- is there are multiple instances where the crash test isn't representative and there are multiple variables that have been changed between the subject crash and the crash test. So, therefore, isolating the contribution of any one variable becomes impossible.

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So how Mr. Grimes reaches his conclusion based on the crash test is -- is really what I'm forming an opinion about, which is later in my report.
Q. I'll ask it again. Have you done any work to determine whether a crash test that hit the exact 10.8 offset, how the results would differ from the actual crash test?
MS. CANNELLA: Object to the form of the question. Number one, no one has testified that -- or the witness has not testified that the offset was exactly 10.8. He explained what the four inches meant. Two, asked and answered.
BY MR. HILL:
Q. Go ahead.
A. So, again, my objective was to understand the relevancy and the representativeness of this crash test to the subject crash and what we can draw from it, if anything, based on how it's conducted. And so my goal was to identify or -- I have just reported areas of discrepancy.
In terms of understanding the contribution of each of the discrepancies, I would think that the onus would fall on the people who ran the crash test, not -- not myself.

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Q. So you have not reached any conclusions or done any work to formulate those conclusions based upon the discrepancies in the crash test?
MS. CANNELLA: Object to the form of the question. It's confusing. And to the extent you're asking if he was able to isolate the effect of the misrepresentativeness of the Exponent crash test, he has already stated his answer to that question.
THE WITNESS: What I'm saying is, there's too many variables changed between the subject and the crash test, so you can't draw meaningful conclusions because it's unrepresentative.
BY MR. HILL:
Q. You cannot contra- -- draw meaningful conclusions about what?
A. So, Mr. Grimes draws meaningful conclusions from his crash test, right? So, for example -- and I quote from page 11 of my report -- "The difference in the seat deformation in both Escapes is probably due to the lack of cargo in the rear cargo area of the test Escape."
I -- what I'm saying in my report is, you can't make that determination because he's not accounting for the other discrepancies, the other differences that he's introduced in the crash test

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relative to the subject crash.
Q. All right. Well, we haven't even broached that subject yet, and so I'm not talking about that subject. I'm talking about your work and your conclusions. And you just said you couldn't draw conclusions, based upon the discrepancies. And I asked you conclusions about what. And what -- what do you mean, other than your conclusion that Mr. Grimes' cargo hypothesis is not, you know, backed by a scientific methodology? I understand that conclusion.
What other conclusions were you referencing that you can't make, based upon the crash test?
MS. CANNELLA: Object to the form of the question. It's, uhm -- sounds to me like you're suggesting that you're saying he can't conclude something, when the testimony is that no one can conclude something. And so --
MR. HILL: Well, these speaking objections are getting outrageous, Tedra. Just object to the form of the question. And if he can't answer it, he can't answer.
MS. CANNELLA: Mr. Hill --
MR. HILL: You're only allowed to object

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to the form of the question. You're not allowed to go into a long diatribe speaking -- instructing the witness about the problems with the question in your mind.
MS. CANNELLA: Mr. Hill, I am allowed to try to make an objection that allows you to correct it. And to the extent you're trying to mischaracterize what he said, I absolutely am allowed to address that. You said --
MR. HILL: Go ahead --
MS. CANNELLA: -- that he can't draw conclusions and his report and his testimony is that no one can draw conclusions. That's -- that's misleading.
MR. HILL: That -- that includes him. And that's what he was talking about. I was asking him about his conclusions. And I was clarifying his answer to the last question, where he said that you can't draw conclusions. And I was asking what conclusions is he not able to draw from it. That was the basis of the question.
BY MR. HILL:
Q. So answer, please, if you can.
A. So the state- -- so it wasn't my crash test, but according to Mr. Grimes the purpose of the

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test was to explore what type of intrusion would occur without the lift kit on the vehicle.
So the point I'm making is that with all these differences, all these variables that have changed between his crash test and the subject crash, you're not going to be able to isolate how that one variable, the lift kit, the right height can make.
Q. Well, one of the variables between the crash test and the subject crash was the color of the vehicles. That's a variable that existed between the subject crash and the test crash. But we can conclude that the color the vehicles are painted had no relevance to the results of the crash test, correct?
A. Yeah, the color is not a significant variable in this instance.
Q. Right. And what did you do to determine whether any of the variables you've mentioned are significant to the crash test?
A. So, what I'm doing is identifying the -- the differences, how additional variables have been changed, and reporting based on the available materials, what those differences are.
And from experience, I know that those variables are significant. We know that the amount

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of overlap in a crash test is significant. There's a great deal of published test data, research that quantifies how overlap influences intrusions and occupant injuries.
We also know that weight from, you know, basic physics, basic scientific principles can influence vehicle motion, the dynamics of the vehicle, based on where that weight is placed relative to the center of gravity.
So these are -- you know, the -- the test was set up to run apparently in a way that was -- replicated the subject crash. But yet I'm pointing out all the ways that it didn't.
Q. Have you done any work to quantify the impact of either the offset or the weight issues that you just mentioned?
MS. CANNELLA: Objection, asked and answered.
THE WITNESS: So I think if Mr. Grimes wants to draw significant conclusions about the influence of the lift kit on -- on this subject crash, he needed to do that work. He needed to run either additional tests or run the tests in a different way that more closely replicated the subject crash.

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BY MR. HILL:
Q. Okay. Speaking of that, how would you have ballasted the Ford Escape, if you were the person directing the test?
MS. CANNELLA: Objection, foundation, I guess.
THE WITNESS: So, I highlight later in my report that we know -- we -- we -- we know who the occupants were. We can identify the weights of the occupants. So, for example, the -- the ballasting for the front row could have represented Santana, Kelly and Joshua Bryson's weights.
We know Cohen Bryson's weight. We know the car seat weight. So all of those could have been represented much more accurately with ballast than -- than was actually performed.
BY MR. HILL:
Q. And how would you do that?
A. So there are more ballasting methods you can use. For example, for the occupants you can use -- there are water ballast tanks that can represent the human form that could be used. Or an ATD could be used.
Q. What additional modifications you would -- would you make to the -- to the test Escape with

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regard to the ballasting?
MS. CANNELLA: Asked and answered.
MR. HILL: No, it's what additional. He -- he just said he'd add weight for the passengers and so forth.
BY MR. HILL:
Q. Would you do anything else?
A. Well, if the purpose of the test was to replicate the subject crash as closely as possible with only the variable off, right, then you would also represent the cargo.
Q. And how would you represent the weight of the cargo in your test?
A. Well, by placing the objects that were clearly identified. So we know the Shop Vac, we know the camping chairs. We have images from the scene and subsequent inspections that -- that help to locate that luggage in the cargo space and on the second row seat.
So you would -- the approach that you could take would be to match as closely as possible with the available weight information the subject crash and then see where -- where the weight deficiency was. And then establish what additional ballasting, if any, was necessary, including adding

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fuel to the fuel tank or Stoddard solvent to the -- to the fuel tank.
Q. Anything else?
A. Those are some examples of the process that could have been followed that would have more accurately represented the weight in the crash test.
Q. All right. With regard to the offset and overlap, what would you change, if you were the person directing the crash test?
A. So, some significant effort was made to align the Escape to the guide rail. So the tolerance of the guidance system for the F-250 was presumably understood by the -- by the Exponent test engineer. So that would be where I would start, is understanding the accuracy and tolerance -- lateral tolerance from the guide system to see how that would -- how that could possibly affect the actual impact offset.
Q. All right. And once you understood that guidance process, what changes would you make to it?
A. I haven't been to the test site. I don't know all the details in the guidance system. It's not -- that's something, at least, beyond my ability to answer at this stage.
THE REPORTER: I'm sorry. I need you to

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repeat what you just said, sir.
THE WITNESS: Yeah, that's a -- that's a question I can't answer, because I haven't sufficient information on -- on the guidance system used, other than it failed to hold the intended offset.
BY MR. HILL:
Q. Are you aware of any guidance system in your experience that is able to hold a specific offset?
A. I'm aware of partial overlap tests being conducted, where there is a tolerance related to those overlaps and those testing agencies are able to control those overlaps for their tests.
Q. Do you know what the tolerance levels are for those tests?
A. Uhm, no, I -- I -- I haven't prepared for that question today. I know that they -- they do hold tol- -- tolerances for valid tests, but off the top of my head I can't figure those.
Q. Do you know the tolerance level that is applicable to the crash test in this case?
A. Well, based on my analysis of an additional four inches of offset, what I can see is that the error is somewhere around 36 percent. That is -- that's a significant error relative to the

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original stated objective of the offset of 10.8 inches -- of about 10.8 inches.
Q. What would you consider to be a -- an appropriate tolerance for the offset in this crash test?
A. I think, in this instance, you'd be looking at trying to achieve something significantly lower than 34 percent. Again, what I would reference, if it was me conducting the test, would be standard industry offset test procedures and the acceptable tolerance that they allow to still have a test that's consistent with their intended procedure. And I would reference that offset. I don't have that for you today, but that was what -- that is what I would reference.
Q. All right. Let's talk about the parking brake. If I understand, one of your opinions is that the Escape's parking brake was possibly engaged in the test. Were you able to read the deposition of Charlie Crosby, prior to this deposition?
A. Uhm, I have reviewed some of it. I believe he stated that the parking brake was disengaged.
Q. Do you have any reason to dispute his testimony?

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A. Uhm, the process of documenting the test with the photographs showing engagement and then disengaging it seems unusual to me. In the sense that if you're trying to run a test with parking brake disengaged, why would you engage it at all and run the possibility that someone forgets to disengage it?
Q. Do you have any evidence that the parking brake was engaged, other than the photograph Mr. Crosby took prior to the test?
A. No, that's the evidence I'm utilizing to say it's possibly engaged during the test.
Q. How would the parking brake, if it was engaged, add resistance to forward motion?
A. Well, you have braking applied to the vehicle that wasn't the case during the subject crash.
Q. How would that manifest itself? Would -- would the rear wheels of the Escape skid during the test?
A. Sorry, you're asking a hypothetical question I'm not sure when, in relation to what.
Q. Yeah, let me ask it another way. If the parking brake were engaged during the test, would it prevent the rear wheels of the Escape from rolling upon impact?
A. So, it, uh -- it depends on the time of the duration allowed for the F-250 to strike the rear wheels. And that -- and the distance that's traveled during that period. So it would depend on the engagement of the structures. So it would be different between the -- the subject crash and crash test, because there's a full line of difference.
So there -- again, that's -- that's not a straightforward question to answer. But the point is, is that, again, if the parking brake was engaged, it is inconsistent with the subject crash.
Q. Yeah, my question was just about the crash test, not about the subject crash. Because we -- we don't believe the subject crash -- the parking brake was not engaged, at the time of the subject crash, correct?
A. That's my understanding.
Q. Right. So I'm just asking about the crash test, all right? And the question is, in the crash test, if the parking brake had been engaged, would it prevent the rear wheels of the test Escape from rolling upon impact?
A. It's, uhm -- it certainly could influence either the rolling or the rate of rolling.

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Q. And how would it influence it?
A. Well, you have braking applied to the rear axle versus in a disengaged state no braking.
Q. So would the parking brake prevent the rear wheels of the Escape from rolling upon impact?
A. I think I've just answered your question.
Q. Well --
A. You need --
Q. Go ahead.
A. So they would either affect -- either prevent rolling or change the rolling rate --
Q. I --
A. -- or the resistance to rolling.
Q. And how would they change the rolling rate?
A. You now have additional braking affect on the rear wheels. So the force to push a vehicle with braking versus without braking is -- is different.
Q. Have you done anything to determine how the parking brake being engaged would have changed the rolling rate of the rear wheels in the crash test?
A. So, as I've stated previously, my objective was to highlight inconsistencies between a crash test and the subject crash. This is

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potentially another one.
Q. So the answer is no, you haven't done anything to determine what the change in the rolling rate would be of the rear wheels in the test, if the parking brake had been engaged?
MS. CANNELLA: Object to the form of the question. Misstates the testimony.
BY MR. HILL:
Q. Go ahead.
A. The -- the emphasis is on the test engineer to ensure that the stated objective is satisfied. My -- my objective in -- in looking at the test data and writing this report wasn't to try and determine the difference of all of these variables. That is -- it's certainly beyond the scope of work. And the point simply is that that is another potential difference between the crash test and the subject crash.
Q. Have you performed any calculations to determine how this difference between the subject crash and the test crash would have impacted the test crash?
A. Sorry, I didn't follow that question. Can you repeat it, please?
Q. Sure. You just pointed out that another

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potential difference between the subject crash and the test crash is the potential for the parking gate (sic) to be -- having been engaged during the test crash.
Have you performed any simulations, calculations, analysis or testing to determine the impact of this difference between the test crash and the subject crash on the test crash?
A. I believe I already provided that answer, but it's not -- in forming the opinions I have in this report, I am trying to understand the veracity, accuracy of the crash test and whether or not meaningful conclusions can be drawn compared to the subject crash.
I'm not trying to isolate and identify the contribution or the differences in all of these variables. That -- that is something that should have been considered, when performing the crash test and making sure that only one variable was being changed during the crash test.
Q. So can we agree the answer is no, you've not performed any testing, calculations, simulation or analysis to determine the impact of the parking brake on the level of crush or intrusion that occurred in the test?

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MS. CANNELLA: Object to the form of the question. He just described his analysis.
BY MR. HILL:
Q. Go ahead.
MS. CANNELLA: Misstates his testimony.
THE REPORTER: I'm sorry, what was the last part of your objection, Ms. Cannella?
MS. CANNELLA: Misstates his testimony.
BY MR. HILL:
Q. Go ahead.
A. Yeah, the -- the opinion is -- is that if the parking brake was engaged during the crash test, that is inconsistent with the subject crash.
Q. I'm going to move to strike as unresponsive.
Let me ask it this way. Please describe for me all testing, calculations or simulations that you have done in connection with your analysis of the crash test.
A. So, I've described my observations, my opinions in the course of my report. I provided you my work product. So, you're welcome to review that. That's a very broad question. I'm not going to try and answer that, when we can go through both my report and my work product.

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Q. Is it fair to say that all testing, calculations, simulations, and/or analysis that you've done in connection with analyzing the crash test are contained within your report?
A. Uhm, certainly my -- my report contains my opinions and findings of that analysis and my work product and the file that you have contains any associated and supported work.
Q. Great. Turning now to the sunroof. Do you know whether the Escape used in Mr. Buchner's simulation had a sunroof?
A. I, uhm -- I will defer you to Mr. Buchner on that question.
Q. Okay. So you don't know, as we sit here today, whether it did or not -- did not?
A. I have not spent a great deal of time understanding the simulation that Mr. Buchner was performing.
Q. Okay. You mentioned before that the height of the crash F-250 was higher than the height of the test F-250. We can agree on that, correct?
A. That's right. The height in the subject crash was higher.
Q. Have you done any work to determine the impact of the F-250 height difference on the roof

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crush experienced in the test Escape?
A. I've made observations on the deformation patterns of the crash test relative to the -- the subject crash. And I'm simply stating, because maybe Mr. Grimes wasn't aware, that roof structures do differ, maybe more than he understands, between sunroof vehicles and none sun- -- and nonsunroof vehicles.
Q. Have you done any work to determine the impact of the height of the F-250 in the test crash on the extent of the roof crush experienced by the test Escape?
A. As compared, I think you can see it on page 9 -- Image 9. I looked at the change in roof deformation between the crash test and the exemplar Escape.
Q. Okay.
A. And you can see that there is -- sorry, the crash test and the subject crash. And you can see that there's bulging in the roof in the crash test.
Q. And this is Image 9 of your report; is that correct?
A. That's -- that's right.
Q. And that's what I've put on the screen?

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A. Correct.
Q. And that is a comparison between the crash test and an exemplar Escape roof comparison. Under -- I don't understand that -- that description of the image. Can you explain that for me?
A. Yeah, that's an overlay of the point cloud data, I think, of all three vehicles in Exemplar A, the subject crash and the crash test. And the -- what you're seeing is the surface of the roof from the crash test and the bulging of the roof pattern, which is not exhibited on the subject crash.
Q. And the exemplar Escape that you used, did it have a sunroof or did it -- or not?
A. Well, the -- the roof height and surface doesn't change significantly between the sunroof and nonsunroof.
Q. Well, what was the purpose of adding a -- a third vehicle to this image, the exemplar Escape? I don't understand.
A. Simply, I compared an overlay of the scan data and observed that the roof deformation on the crash test was greater than in the subject crash.
Q. And did you do any work to determine whether the height of the F-250 in the test crash was a factor in the difference between the roof crush in

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the subject crash and the roof crush in the test crash?
A. Uhm, I'm pointing out that roof structures vary between sunroof and nonsunroof vehicles. And so if you're trying to replicate the subject crash, it would be advisable to use a body structure that is the same, which has a sunroof. This crash test was conducted with a nonsunroof body and we know that sunroof structures are reinforced relative to nonsunroof structures.
Q. Did you do any work to determine the impact of the difference in height between the test F-250 and the subject F-250 on the roof crush exhibited in the test Escape?
A. Uhm, I'm pointing out that the roof strength and stiffness in a nonsunroof body structure is lower than with a sunroof body structure. So it's another example of the crash test not matching or being inconsistent with the subject crash.
Q. Move to strike as unresponsive.
I'll ask it again. Did you do any work to determine the impact of the difference in heights between the subject F-250 and the crush -- crash F-250 on the level of roof crush exhibited by the test Escape?

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MS. CANNELLA: Object to the form of the question. Confusing and he's testified about this already.
MR. HILL: He hasn't answered the question. It's a yes or no question. Have you done any work in that regard?
MS. CANNELLA: Same objections.
THE WITNESS: I mean, I comment on the level of roof deformation between the subject crash and the crash test vehicle.
BY MR. HILL:
Q. And have you determined the impact of the height of the subject F-250, as compared to the test crash F-250 with regard to your observations of the difference in the roof crush between the test Escape and the subject Escape?
A. So, I've highlighted the -- the differences in the deformation pattern of the crash test Escape versus the subject Escape. Again, we know there's a difference in the body stiffness. In terms of how it would influence the results of the crash test, I've not tried to isolate one of many variables that were changed.
Q. Great. Have you done -- expanding on the answer you just gave. Have you done any work,

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whether it be testing, calculations, simulations, analysis, to isolate the variable of a sunroof versus not having a sunroof on the results of the crash test?

A. So, again, there's a -- an example here of the way the crash test was run that is inconsistent with the aims of the crash test as stated by the crash engineer. And I've not attempted to understand any contribution that may have arisen from that variable being changed.

Q. Thank you. Do you know whether the lack of a sunroof in the test Escape increased the crush experienced by the test Escape?

A. I know from my experience that sunroof body structures are both stiffer and stronger based on prior vehicles I've worked on. And so, therefore, by testing a nonsunroof Escape, you have a slightly softer structure, based on the geometry of the sunroof reinforcement versus the baseline roof bows.

Q. Have you quantified this difference?

A. I'm simply pointing out that there is a difference and it would add yet another variable to the difference in the subject crash and the crash test.

Q. Have you quantified the difference?

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A. I've identified that there is additional roof deformation in the crash test than the subject crash. Beyond that, no.

Q. You say -- I'm sorry. Did you say beyond that, no? I couldn't hear your response, I'm sorry.

A. That's right. I just -- the image you have on the screen, I'm showing -- I quantified that the roof bowed for the crash test, relative to the subject crash.

Q. Okay. And that's the extent of your work or efforts with regard to determining whether the lack of a sunroof increased the crush in the test?

A. So my objective here was to identify whether or not the crash test was run in a consistent manner to the subject crash. Here is another example where that wasn't the case.

Q. Right. That's not my question. I understand that. My question was, have you done anything to quantify or explain your opinion that -- no, scratch that. I'll go back to my original question.

Have you done anything to quantify whether the lack of a suncruf -- sunroof increased the crush in the test?

A. I am simply providing the opinion that

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sunroof roof structures are stiffer and stronger than nonsunroof roof structures. And if you -- the objective of the crash test was simply to isolate the height difference, where everything else is being matched as closely as possible, then why wasn't a sunroof Escape used in the crash test?

MR. HILL: All right. I think it's time we need to take another break. Let's go off the record for about five to ten minutes.

THE VIDEOGRAPHER: Okay. Off the record, 10:51.

(Recess was taken from 10:51 a.m. to 11:16 a.m.)

THE VIDEOGRAPHER: Back on the record. The time, 11:16.

BY MR. HILL:

Q. Mr. Roche, do you know whether vehicle manufacturers are required to run separate compliance tests for rear impacts for the same model vehicle, comma, one with a sunroof, comma, one without?

A. No. In my experience, compliance tests are certainly performed for roof crush and also for overall body stiffness. Testing is conducted with both, with and without sunroof. As to 301, I -- I'm not sure.

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Q. Are you aware of tests beyond 301 that actually require the manufacturer to perform a test both with and without a sunroof?

A. I'm sorry. Can you just ask that question, again, please?

Q. Sure. I believe you said you're not sure if 301 requires both tests, as I've described, right?

A. Right.

Q. And you made a general reference to testing with and without. And I'm saying, are you aware of any other compliance test that's out there that does require the manufacturer to test both a sunroof model and a nonsunroof model?

A. And the example I gave you was roof crush, which is 216A.

Q. 216A; is that correct?

A. That's right.

Q. And it's your understanding that the manufacturer must test both the sunroof and the nonsunroof model to comply with 216A?

A. Correct. When I was writing compliance reports for Jeep for roof crush performance, we would always run both configurations and submit compliance reports. But I was -- I was not responsible for compliance to 301, per se, because that's a -- that's

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a vehicle test, not a body system test.
MS. CANNELLA: Can I ask a question, if you're done, Mr. Roche, just on the record? Is there anybody else attending the deposition by video or phone or anything aside from you, Mr. Hill for Defendants?
MR. HILL: No.
MS. CANNELLA: Okay. Thank you.
BY MR. HILL:
Q. While you were in the automotive industry, you mentioned you were involved with compliance testing. Were you ever involved in any testing outside of the compliance framework?
A. Yeah, absolutely.
Q. All right. Can you just describe that for me briefly, just so I understand it.
A. Yes. By compliance testing, I mean specific to FMVSS. But there's plenty of other testing that is conducted for both crashworthiness and other test requirements that is -- that is considered noncompliance -- or it's not that it's noncompliant, it's that it's not a compliance test.
Q. Right. And in all of those tests that you performed that relate to vehicle performance, did you comply with the procedures that related to compliance

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testing?
A. I'm -- so, I think I understood your question correctly. When -- the way compliance testing works in the auto industry is certainly for Federal Regulations. It is a self-compliance system. For European regulations, it is not. But -- but as part of self-compliance, you have to run the tests according to the test procedure, in order to have a valid compliance report.
Q. Right. And I -- I'm referencing the -- what you called, I think, noncompliance testing, the vehicle performance testing, testing that would be done by automakers, not for compliance purposes, but for performance purposes. You said you had experience with the noncompliance-type testing. Did I understand that correctly?
A. That's correct, yes.
Q. And give me some example of the noncompliance/vehicle performance related testing that you were involved with.
A. Yes, so better term is nonregulatory. So there's lots of tests that I was involved in that was nonregulatory tests. Meaning, that those are tests you still wanted to satisfy for a variety of reasons. An example related to crash would be NCAP, for

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example. Although, NCAP is administered by NHTSA, you don't have to satisfy any sort of star rating for NCAP. NCAP is a consumer information test.
So manufacturers -- some of the ones I would work with -- would run tests to see if they were meeting their objectives relative to nonregulatory test modes. So that when the regulatory body tested their vehicle, they knew -- they would know what sort of performance they would achieve.
Q. Right. And NCAP stands for New Car Assessment Program?
A. That's correct.
Q. All right. And are you saying it -- it doesn't deal at all with the compliance with regulatory standards?
A. NCAP is -- is a testing that goes above and beyond FMVSS. So although the tests may look similar, the tests aren't meant to be in some instances identical. But complying with 208 and your NCAP star rating are two different things.
Q. Right. So 208 would be a 30-mile-per-hour test, where like NCAP might be a 35-mile-per-hour test?
A. 208 is a whole host of different tests --

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Q. Right.
A. -- it's not just one test.
Q. Right. But you would agree, I mean -- so, NCAP might be performance testing that's not required by regulation, but you would follow the procedure for the FMVSS standard that related to that testing, is that what you're saying?
A. No. I was just describing some nonregulatory test modes from -- that I have been involved with.
Q. Okay.
A. You know, so, uhm, maybe slightly easier explanation, if you switch to IIHS, which is the same thing. IIHS conducts testing on vehicles. And that's entirely nonregulatory. They -- they perform tests and they inform the public about performance of the vehicles, according to their tests. And they produce test protocols that are available to explain to manufacturers who are interested, how they will conduct their tests when they -- if they elect to buy and test their vehicles.
So manufacturers typically will conduct their own testing according to the IIHS test standards. And they will follow, obviously, the protocol that IIHS would use. And that way they can

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get a good indication of whether -- how that vehicle will perform to the IIHS test. Same applies for NCAP.
Q. Do you know whether any IIHS procedures for conducting their testing were not complied with by Exponent and the tash cresh (sic) in this case?
A. So, these crash tests that were conducted was trying to replicate the subject crash. And the subject crash wasn't similar to any IIHS test that I'm aware of. And, therefore, there wouldn't be an IIHS procedure that encompassed the entire test.
Q. And is the same thing true for procedures related to FMVSS testing?
A. So, FMVSS, which is a compliance test, there is a fuel system integrity test. There is a well-defined procedure on how to run a fuel system integrity test. Again, that test is different from the subject crash. But it is a good reference point on how to conduct a high-speed, rear-impact test.
Q. Are there any FMVSS required regulatory tests that are similar to the subject crash?
MS. CANNELLA: Object to the form of the question. Similar is a vague word.
MR. HILL: He used the term "similar" in his last answer. So I'm using it in the way he used

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it.
MS. CANNELLA: Just stating my objection.
BY MR. HILL:
Q. Go ahead.
A. So, the closest FMVSS is 301 to the subject crash, but -- but I'm not suggesting it's identical.
Q. Okay. Were you ever involved in any -- and correct me if I use the wrong terms, I'm trying to use what you stated -- nonregulatory performance-related crash testing that involved analysis of rear-impact collisions?
A. Uhm, so in addition to nonregulatory tests, there are, uhm -- some manufacturers have -- do carry load -- load cases or test modes. So these are -- these are tests that are not required by any government agency and are not going to be used for informing the public, but the manufacturer has established that their own internal requirements require them to do additional testing. And so I have been involved in rear impact load cases and tests, which are not compliance for nonregulatory tests, yes.
Q. And you say rear impact load cases, is that -- load test. Was that the term you used?

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A. Yeah, load cases, crash tests.
Q. All right. And in any of those load cases or crash tests involving rear impact, were any of those performed without Stoddard solvent in the gas tank?
A. Yeah, off the top of my head I -- I can't answer that. This is some time ago. You know, I'd refer you to my earlier answer, which is -- you know, even in -- even in due care load cases, you're still trying to relate either back to prior incidents that the manufacturers' learned from or some sort of established test procedure.
You know, it's very infrequent that vehicles are impacted with an empty fuel tank. So fuel is usually -- and fuel leakage is -- is a big concern. And so representing a fuel substitute that allows you to monitor the potential for fuel leakage is -- is very typical in my experience.
Q. Fuel leakage was not an issue in the subject crash, correct?
A. Uhm, yes. I don't remember that being noted on the police report or any of the scene images.
Q. And I believe your answer to the last question was that you're not -- you can't recall, as

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you sit here today, whether any of the testing you just described that you were involved with involved a test that did not include Stoddard solvent; is that correct?
A. Yeah. I can't remember the detail of any fuel care --
Q. Okay.
A. -- test I've been involved with. But what I did state very clearly was that typically, especially rear impacts, fuel system leakage is a concern. And oftentimes that was a focus of any testing that was conducted. Therefore, the fuel was represented, so that could be checked.
Q. Sure. I'm going to attempt to share -- whoops. All right. Can you see my shared screen?
A. Yes, I can.
MR. HILL: All right. This comes from the material that you presented -- or produced to us or that Ms. Cannella produced to us. And I believe it's just entitled PowerPoint presentation. But it's labeled as Bryson 9643 through 9646. And I'd like to mark this as whatever our next exhibit is.
(Defendant's Exhibit No. 3 was marked for identification.)
BY MR. HILL:

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Q. Is this a PowerPoint presentation from your files in this case?
A. Yeah, I think the name of the document is Scan Comparison.
Q. All right. Sorry if I -- it did -- I just was reading from the top, and I guess it didn't show it. Sorry.
All right. So, the first page of this we have the subject and an exemplar placed over each other from a number of different angles. And I assume the purpose of this is just to show that the subject wheelbase did not change after the subject accident; is that fair?
A. That's -- that's right. That was the point of that image showing the -- obviously, the subject vehicle was on a hoist. So you -- you've got a slight difference in the wheel positions there. And the alignment is based on the body, the undamaged body.
Q. Sure. And we've already talked about the next page, where you have the roof panel bowing figure or image that was in your report.
A. Yes.
Q. Is that the same image? Am I correct about that?

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A. Right.
Q. And then you also have a exemplar wheelbase compared to the crash test wheelbase showing a 5-inch reduction in the wheelbase?
A. Yes, about five inches.
Q. Okay. Yeah, I'm sorry, about.
All right. And then if we go ahead to what's labeled as Bryson 9646. This doesn't really have much of an explanation. I think I understand what it means. But could you explain what these two images represent?
A. Yes. So this -- this image is actually in my report. It's Image 7.
Q. Right.
A. So, it's entitled "Static Seat Angle Comparison." So here on the left, you've got the point cloud from the crash test overlaid with the subject. Sorry, the crash test overlaid with the exemplar Escape data. On the right you have the subject Escape overlaid with the exemplar. And I'm simply trying to compare the amount of seat back deformation.
Q. And this is the static deformation from after both crashes; is --
A. That's right, it's --

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Q. -- that correct?
A. These scans were taken post-crash, so it's the static deformation, that's correct.
Q. Right. And you're saying that the crash test deformation is the image on the left?
A. That's correct, yes.
Q. And it shows a 65-degree angle there. What is that ang- -- what does that 65 degrees represent?
A. That is the seat back relative to horizontal plane.
Q. All right. And is that to represent where the seat back was moved during the test crash?
A. No. So, it shows that the seat back angle is largely unchanged between the crash test seat and the exemplar seat. So the exemplar seat, as you can see, is almost parallel. Seat back angle is almost parallel to the dotted line, which is the crash test seat back angle.
Q. Gotcha. And then the figure on the right is showing the static position of the subject Escape seat, correct?
A. That's correct, yeah.
Q. Okay.
A. You can see that that angle now is more

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than 90 degrees to the horizontal, as shown in the -- in the crash vehicle.
Q. Great. Would you agree that the rear seat back was deformed in the crash test?
A. Uhm, so I think I'm saying that there was some translation of the seat back and the seat in the crash test.
Q. And how is translation different from deformed?
A. So, the seat appears to have moved relative to the original position in the X direction, as opposed to the seat back being displaced in a way that would effect the occupant kinematics.
Q. Do you know how far the seat was displaced in the X direction?
A. No, I -- I didn't measure that. But, I mean, you can get a sense from that -- that image.
Q. All right. And are you saying that in the Y direction the seat back did not move at all from its original position?
A. No, I'm not saying that. You can see from some of the pictures of the seat -- I think we have a picture on page -- on page 6, which is Image 5. You can see the -- the seats appear to have -- so the 60/30 split has separated slightly and so there's a

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little bit of rotation around the X's axis. But in terms of the forward displacement of the seat back, it's certainly significantly less than the subject vehicle.

Q. But there was some forward seat displacement of the rear back in the crash test?

A. As -- as -- along with the seat base, yes, this -- as is shown in that image that you have on the screen.

Q. Okay. So you would agree that something impacted the rear of the second row seat in the crash test and displaced it both in the X and the Y axis?

A. No, that's not what I'm saying. I'm saying --

Q. Okay.

A. -- that the underbody was loaded, the underbody is deformed, as I -- as you mentioned earlier. The wheelbase was actually reduced. And so you've got some translation of -- of the seat and the structure, which the seat is mounted to. And that's depicted in that image.

Q. So is it your opinion that all of the movement of the second row seat was due to the floor displacement? Am I understanding that correctly?

A. I'm saying that, uhm, that level of

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intrusion analysis, I haven't conducted that. I'm -- I am showing you that the relative position of the seat between the crash test and the subject crash -- I'm highlighting the seat back angle between the two. And I'm stating that the entire seat was translated in the -- in the crash test. And -- and that's -- that's the degree of my observations.

Q. Okay. So just to be -- be clear, and I don't mean to put words in your mouth. I believe I just heard you say that you haven't analyzed the full extent of the cause of the translation of the rear seat in the crash test, other than to say that you observed that at least some of that translation was due to the movement of the floor of the Escape in the crash test, is that fair?

A. Yeah, that's -- that's part of it. I mean, there was no analysis conducted as part of Grimes' work. He didn't really analyze seat motion significantly, so I haven't been able to form any opinions on his analysis.

Obviously, if the seat back had been loaded significantly, you would expect the seat back angle to change. And what I'm showing here is that the seat back angle is largely unchanged between the crash test post -- crash test Escape post-test to an

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exemplar seat back.

Q. And you haven't analyzed it, just like Mr. Grimes haven't -- hasn't analyzed it, beyond what you just described to me, is that fair?

A. That's right.

MS. CANNELLA: Objection, asked --

THE WITNESS: This is his test.

MS. CANNELLA: -- and answered.

BY MR. HILL:

Q. Okay. Sure. And you're not an expert in biomechanics, correct?

A. Yeah, I don't -- I don't offer any biomechanical opinions here.

Q. And you're not going to offer any opinions in this case regarding the cause of Cohen Bryant -- Cohen's injuries or death, correct?

A. No. I mean, the opinions I've offered relate to occupant motion when a seat is rotated more than 90 degrees. That would tend to force the occupant towards the back of the front seat. And that's the extent of my opinion.

Q. Okay. On page -- well, let's first cover a general top- -- general term, "override." How do you define the term "override," in the context of -- of its application to this case?

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MS. CANNELLA: Objection. How is this in the scope of his report and supplemental report?

MR. HILL: Because he talks in the supplemental report that the crash test did not involve an override situation. It's one of his opinions --

MS. CANNELLA: Okay.

MR. HILL: -- in the report. It's directly --

MS. CANNELLA: I --

MR. HILL: -- relevant to his opinion.

MS. CANNELLA: I withdraw my objection.

BY MR. HILL:

Q. Go ahead.

A. Yes. So in an override or underride case, you have a lack of structural engagement between, in this case, the frame rails of the truck and the longitudinals of the SUV.

So here in the crash test, we can see that the underbody and the longitudinals were engaged, were deformed, were crushed, which is in stark contrast to the subject crash vehicle, where the underbody longitudinals were largely left intact and the floor and upper structure was peeled away from it.

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Q. And just -- I think I understand it, but just so the jury understands it. What do you mean by "longitudinals"?
A. So, those are the energy-absorbing structures in a -- in a unibody vehicle, a unitary construction vehicle like a Ford Escape, when you don't have a separate body and frame. So the frame rails effectively are integrated within the body structure. And so those -- there's various industry terms, rails, longitudinals, essentially substitute for the frame rails in a unibody vehicle. The rear bumper beam, the beam structure is attached in line with those rails. And that is the structure that is designed and intended to absorb energy and dissipate energy in a rear-impact event or conversely in the front of the vehicle, front impact.
Q. Right. So -- just so I make sure I understand, if the -- if there's any engagement between the longitudinals and the bumper of the F-250, that would not qualify as an override?
A. You can have --
Q. That --
A. You can have partial overlap, partial misalignment. In this instance, there was good engagement, there was good structural deformation of

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the underbody, and that's what I'm using to form the basis that there was compatibility and no override in this crash.
Q. Okay. In the subject crash, was there impact between the Cs (ph) brackets and the bumper beam of the -- of the Escape?
A. So, I've got a comparison image on -- which is Image No. 2, where I compared the rearview of both Escapes, crash test on the left, subject crash vehicle on the right. And in terms of override, that's really what I'm talking about.
On the left you can see the underbody has been deformed and displaced forward in vehicle. On the right, the underbody is largely exposed and the upperbody is being pushed forward relative to the underbody.
Q. My question was, was -- was there contact between the F-250 Cs (ph) bracket in the subject crash and the bumper beam of the Escape in the subject crash?
A. Yes, I think that question is going to be beyond the scope of this report. This -- I can happily talk to you about my opinions related to the Cs (ph) brackets on the crash test. I certainly reviewed those. And I'm prepared today to discuss my

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opinions on -- on the Cs (ph) brackets in the crash test.
Q. Well, I'm trying to understand your definition of override. And there's a description of override that you just gave that I'm trying to see if that applies to the subject crash or not.
So the question is, if there's Cs (ph) impact to the bumper beam in the subject crash, why do you still consider that to be an override condition, as opposed to the crash test, which you've opined is not an override condition? That's what --
MS. CANNELLA: Objection to --
MR. HILL: -- that's how it's relevant to your subject opinions.
MS. CANNELLA: I'll object to that question as to how it relates to subject crash, but not as to it relates to the crash test.
BY MR. HILL:
Q. Go ahead.
A. Yeah, so when you describe an override, you're -- you're talking about many aspects and not necessarily the behavior of one single part of the structural engagement. So rather than the effectiveness of the Cs (ph) bracket, it's effect on the subject crash, I'm making an override opinion

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based on the fact that the large part of the front of the F-250 was able to move relative to the underbody without engaging it significantly, without causing it to crush and collapse in a way that it was designed to.
So in that right image there, if there had been compatibility, if there had been no override, we wouldn't see those exposed longitudinals hanging rearward of the vehicle with the upper structure stripped off of it.
Q. I understand. Based upon your answer there, do you believe that in the crash test the longitudinals operated as designed in the test Escape?
A. No. I'm offering the opinion that the longitudinals and underbody structure was involved in a crash event, was deformed, and absorbed energy and dissipated the energy.
Relative to design -- Ford's design intent, I can't opine on that. But I can tell you that those structures played a -- a role in the crash test that didn't in the subject crash.
Q. Understood. You give the opinion on page 12 that the Exponent crashed (sic) test intrusion increase is likely due to the test setup. Can you

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say, with a reasonable degree of scientific certainty, that the Exponent crash test -- crash test intrusion increase was due to the test setup?

A. Well, on page 12 what I say is, if the crash test intrusions were higher -- because I'm simply responding to what Mr. Grimes' claims, that the intrusions were higher in the crash test. I'm simply responding. I didn't do an intrusion analysis. I don't have intrusion values or a comparison of the intrusion values. Mr. Grimes came up with an opinion on that, which I think I discuss somewhere else in the report.

But my comment there is related to the fact that if they were higher, it would be unusual because you have good underbody structural engagement. And based on my experience, based on the research, based on the available testing out there for compatibility, when you have greater compatibility, you have less intrusion, not more.

Q. Move to strike as unresponsive. I'll ask it again.

Can you say, with a reasonable degree of scientific certainty, that the Exponent crash test intrusion increase was due to the test setup? Yes or no?

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MS. CANNELLA: Asked and answered.

THE WITNESS: I'm not -- I'm not opining on whether the intrusions were increased or not. I'm responding to Mr. Grimes' statement that he thinks they were.

BY MR. HILL:

Q. Okay.

A. And I'm also saying that there are so many differences, so many variables have been changed between the crash test and subject crash that drawing any conclusion about the level of intrusions is -- is impossible, because too many variables to -- have been -- been modified, which is against the stated intent of GSI 34 (ph), which is the right height change.

Q. So for that very same reason, it's impossible for you to opine as to whether the test setup led to the test intrusion increase, correct?

MS. CANNELLA: Object to the form.

THE WITNESS: I'm saying that there were many inconsistencies in the -- in the crash test relative to the subject crash. And it was conducted in an improper manner, if you're trying to follow scientific process to isolate the contribution of just right height difference.

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BY MR. HILL:

Q. Have you told me, during this deposition, the -- a -- a full list -- well, scratch that. Scratch that.

MR. HILL: Let's take a -- like a two-minute break.

MS. CANNELLA: How much longer do you have? Because we only have ten minutes left.

MR. HILL: Yeah, I won't need more than two minutes.

MS. CANNELLA: Okay. Great.

THE VIDEOGRAPHER: Off the record at 11:50.

(Recess was taken from 11:50 a.m. to 11:57 a.m.)

THE VIDEOGRAPHER: Back on the record. The time, 11:57.

BY MR. HILL:

Q. Mr. Roche, are there any opinions that we did not discuss today and that are not listed in your report that you intend to give with regard to the crash testing conducted by Exponent?

A. Well, some of the opinions that are in the report we haven't discussed.

Q. And that's why I -- why I asked it the way

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I asked it. So we have what we discussed, and then we have the opinions in the report. Are there any opinions beyond those two topics that you intend to give with regard to the Exponent crash testing?

A. No, they are captured in this report.

Q. All right. And the basis for those opinions, all testing, simulations, calculations, analysis, work, scientific methodology, all of that that goes to support the opinions you intend to give regarding the crash test have either been discussed today in the deposition or are contained in your report; is that correct?

A. That's correct.

MR. HILL: Okay. I have no further questions. Thank you, Mr. Roche.

MS. CANNELLA: (Indicating.) I don't have any questions either.

THE VIDEOGRAPHER: Okay. Off the record 11:58.

(The witness, after having been advised of his right to read and sign the transcript, does not waive that right.)

(Deposition was concluded at 11:58 a.m.)

CERTIFICATE OF REPORTER

I, MARY K. STEPP, Notary Public for the State of South Carolina at Large, do hereby certify that the foregoing transcript is a true, accurate, and complete record.

I further certify that I am neither related to nor counsel for any party to the cause pending or interested in the events thereof.

Witness my hand, I have hereunto affixed my official seal this 1st day of August, 2024, at Campobello, Spartanburg County, South Carolina.

Mary K. Stepp, Notary Public
My Commission Expires:
March 1, 2028

I N D E X

REQUESTED INFORMATION

(No information requested.)

E X H I B I T S

Tedra L. Cannella
tedra@cannellasnyder.com

August 2, 2024

RE: Bryson, Santana And Joshua v. Rough Country, LLC
7/17/2024, Christopher D. Roche (#6801963)

The above-referenced transcript is available for review.

Within the applicable timeframe, the witness should read the testimony to verify its accuracy. If there are any changes, the witness should note those with the reason, on the attached Errata Sheet.

The witness should sign the Acknowledgment of Deponent and Errata and return to the deposing attorney. Copies should be sent to all counsel, and to Veritext at cs-southeast@veritext.com.

Return completed errata within 30 days from receipt of testimony.

If the witness fails to do so within the time allotted, the transcript may be used as if signed.

Yours,
Veritext Legal Solutions

Bryson, Santana And Joshua v. Rough Country, LLC
Christopher D. Roche (#6801963)

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Bryson, Santana And Joshua v. Rough Country, LLC
Christopher D. Roche (#6801963)

ACKNOWLEDGEMENT OF DEPONENT

I, Christopher D. Roche, do hereby declare that I have read the foregoing transcript, I have made any corrections, additions, or changes I deemed necessary as noted above to be appended hereto, and that the same is a true, correct and complete transcript of the testimony given by me.

_____ _____

Christopher D. Roche Date

*If notary is required

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ DAY OF _____, 20___.

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NOTARY PUBLIC

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

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